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10/565,992

07/17/2006

Dennis Nielsen

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EXAMINER

STELLING, LUCAS A

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

10/27/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/565,992 | Applicant(s) NIELSEN, DENNIS | |
| | Examiner Lucas Stelling | Art Unit 1797 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33,36,38-46 and 48-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33,36,38-46, and 48-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

2. Claims 33, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.K. Patent No. 1,567,773 to Welwyn Hall Research Associates ("Welwyn") in view of U.S. Patent No. 6,916,426 to Van Slyke et al. ("Van Slyke").

3. As to claim 33, Welwyn teaches a method of treating waste matter from animals **(Welwyn title)**, the method comprising:

4. collecting waste matter from the animals **(Welwyn page 2 lines 115-116)**; and

5. separating said urease-activity inhibited waste mater into a urea-rich fraction essentially consisting of a liquid comprising urea and other components soluble in liquid manure and a urea-lean fraction **(Welwyn page 3 lines 20-50; floor is treated with alkali inhibitor, thus treated urea-rich fraction flows to a tank, leaving behind urea-lean fraction – the dung)**;

6. Welwyn further suggests controlling the temperature in order to slow the decomposition of urea, thereby reversibly inhibiting it **(Welwyn page 3 lines 40-45 and lines 94-100)**, but Welwyn does not teach the use of decreasing the pH, buffering the pH, affecting the pressure, or affecting the ionic strength. Van Slyke teaches the use of lowering the pH in order to reversibly inhibit urease **(Van Slyke col. 6 lines 58-61 and col. 6 line 66 -- col. 7 line 3)**. Van Slyke teaches that the reversible inhibition allows for reduced urea decomposition between waste treatment intervals **(Van Slyke col. 7 lines**

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1-3). Therefore it would have been obvious to a person of ordinary skill in the art at the time of invention to reversibly inhibit the urease by pH lowering in order to reduce urea decomposition between waste treatment intervals.

7. As to claim 40, Welwyn teaches the method of claim 33, wherein the waste-matter comprises feces and liquid manure from farm animals **(Welwyn title)**.

8. Claims 36, 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welwyn and Van Slyke as applied to claim 33 above, and further in view of U.S. Patent No. 154,092 to Scott ("Scott").

9. As to claim 36, Wylwyn and Van Slyke teach the method of claim 33, and Welwyn uses lime to control urease activity, but does not teach the use of an enumerated irreversible inhibitor listed in claim 36. Scott uses phosphate and a divalent metal ion in order to fix the nitrogen content in the urine **(Scott page 1, left side, second paragraph, and page 1, right side, second full paragraph)**. Scott teaches that the fixation of the nitrogen compounds in the compounds marketable and also reduces the smell of them **(Scott page 2, left side, second full paragraph)**. Also the use of phosphate and magnesium for fixing the nitrogen content in urea-rich fractions of waste is the selection of a known material based on its suitability for the intended purpose **(Scott page 1, left side, fifth paragraph)**. See MPEP 2144.07. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to use phosphate and magnesium to fix the nitrogen content in the urea-rich fraction in

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order to make the urea- rich fraction a marketable substance, and also as the simple selection of a known material based on its suitability for an intended use.

10. As to claim 38, the urea-lean fraction in Welwyn and Scott is the faeces, which is partially solid.

11. As to claim 39, Scott teaches the recovery of the inhibitor in so that the inhibitor may be reused **(Scott page 2, left side, second full paragraph)**.

12. Claims 41-44,48 and 50-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welwyn and Van Slyke as well as Scott.

13. As to claim 41, Welwyn and Van Slyke teach the method of claim 33, which produces a urea-rich fraction having reversible urea inhibition. The product of claim 41 is therefore obvious as the product of an obvious process.

14. As to claim 42, the reversible inhibition of Welwyn and Van Slyke uses a pH of less than six, which is very close to the pH of 5.5 used by applicant **(Van Slyke col. 6 lines 66-67, and see instant application page 19 lines 9-18)**.

15. As to claim 43 and 48 and 50-52, Welwyn and Van Slyke teach the method of claim 33 which produces an obvious product. Scott teaches using phosphate and magnesium to irreversibly fix the nitrogen in waste liquid. Scott also teaches removal of the phosphate and magnesium for reuse, which would leave only minor residues, which a person of ordinary skill in the art would know to minimize in order to maximize the amount of treatment chemical that can be reused. The use of phosphate and magnesium to fix the nitrogen content is the selection of a known material based on its suitability for the intended purpose. MPEP 2144.07.

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16. As to claim 44 and 53, Welwyn does not teach any purification or removal step for waste-matter indicators, so these will be present in the product **(Welwyn page 3 lines 20-50, the fractions are produced from animal dung and urine; because no purification or removal step is taught, the product will inherently contain animal waste-matter indicators).**

17. Also, as to claims 41-44, 48, and 50-53, Because of the nature of product-by-process claims the Examiner cannot ordinarily focus on the precise difference between the claimed product and the disclosed product. IT is then Applicants' burden to prove that an unobvious difference exists. See *In re Marosi*, 218 USPQ 289,292-293 (CAFC 1983)

18. Claim 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welwyn in view of U.S. Patent No. 4,349,572 to Larson et al. ("Larson").

19. As to claim 45, Welwyn teaches a method of treating waste matter from animals comprising:

collecting waste matter from the animals **(Welwyn page 2 lines 115-116);**

inhibiting urease activity from said collected waste matter **(Welwyn page 2 lines 35-40 and page 70-85);** and

separating said urease-activity inhibited waste mater into a urea-rich fraction essentially consisting of a liquid comprising urea and other components soluble in liquid manure and a urea-lean fraction **(Welwyn page 3 lines 20-50; floor is treated with alkali inhibitor, thus treated urea-rich fraction flows to a tank, leaving behind urea-lean fraction – the dung);**

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20. Welwyn is different from claim 45 in that it does not explicitly teach reversible inhibition of urease in the as claimed, and it does not teach reacting the urea-rich fraction with methanal. However, Welwyn teaches that contact between the urea rich fraction and the urea-lean fraction should be minimized to limit exposure of the urea in the urine to the urease in the dung portion in order to limit conversion of the urea **(Welwyn page 3 lines 40-45)**. Further, Welwyn teaches that the amount of acceptable contact is about 30 minutes in normal hot weather, but that temperature is a result effective variable which controls the rate of urea decomposition in the presence of urease **(Welwyn page 3 lines 94-100)**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to reversibly inhibit urease activity by lowering the temperature in the contact zone in order to limit the amount of urea which is converted to ammonia.

21. As to the step of contacting the urea-rich fraction with methanal, Larson teaches contacting livestock excreta with formaldehyde solution **(Larson abstract)**. Larson teaches that contacting the excreta with formaldehyde destroys pathogenic fecal microbes and prevents mold growth **(Larson col. 2 lines 40-45)**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to produce urea-formaldehyde from the urea rich fraction by contacting the fraction with formaldehyde in order to destroy pathogenic fecal microbes and prevent mold growth.

22. As to claim 46, both Welwyn and Larson are drawn to waste-matter comprising feces and manure from farm animals **(Welwyn title, Larson title)**.

Response to Arguments

23. Applicant's arguments filed 6-25-08 have been fully considered but they are not persuasive.

24. With respect to the arguments concerning claims 33, 36, 38-44, and 48-53, the arguments are moot in view of the new grounds of rejection.

25. In response to applicant's argument that the references fail to show certain features of applicant's invention claimed in claims 45 and 46, it is noted that the features upon which applicant relies (i.e., that the process produces a thermosetting polymer) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

26. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

27. In response to applicant's argument that the method of Larson is incompatible with the product created in Welwyn, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references

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would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

28. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucas Stelling whose telephone number is (571)270-3725. The examiner can normally be reached on Monday through Thursday 12:00PM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

las 10-22-08

/Duane S. Smith/
Supervisory Patent Examiner, Art
Unit 1797